SOFTWARE DEVELOPMENT OF INFORMATION-ADVERTISING CATALOGUE CREATION

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Abstract: application of the full-value data processing is one of the most important points of the market success of the advertising agency. The information system of information-advertising catalog creation has been developed. This software having user-friendly interface allows to separate access rights to database by password input, to delete and correct information of catalogs, to review data on sections of catalogs, to search information about advertiser using keywords, to use system in local network and Internet. Developed software is based on using Apache and Tomcat server and Java Server Pages. The images of user interface and information searching result have been presented.

1. Description of the work purpose

Advertising activity in Belarus is dynamically developed last years. A lot of advertising agencies, enterprises and departments engaging organisation and selling of advertising have been created. Efficiency of advertising agency activity rendering information-advertising service highly depends on immediacy of client servicing and collaboration with partner on advertising and publishing business and trustworthiness of used information. The ultimate aim of this activity is receipt of maximum financial capital. Advertising is particular kind of business which depends in the very large degree on company ability to accumulate and fast extract the large volumes of correct and reliable information. Therefore application of the full-value data processing is one of the most important points of the market success and condition of dynamical growth of company [1,2]. Today only that enterprise can achieve a success, which has creative and extraordinary approach of information-computer system usage of different application and complexity level.

The aim of presented work was realization of the qualitative automation of the publishing-advertising activity of the company specialising on providing information services by means software development for information-advertising trade catalogue creation. The considered company issues colour catalogues on different branches of industry and social system of Republic of Belarus. The main company work is information gathering and attraction of potential advertisers for participation in image catalogues which are distributed:

1) on exhibitions;
2) by subscription in edition;
3) by dispatch on companies.

Existing company software for automated catalogue creation having following drawbacks: limited and unreliable searching on query in advertiser database; impossibility of software use in local or world wide network; errors under advertising information output; impossibility preview and prepress of catalogues on topics. Actual problem for company is creation of flexible information system which convenient both employers and users as far as in near future is planed catalogue creation as on-line document.

The information systems can have strongly difference in their functions, architecture, realization, depending on the application field. However two properties can be selected which is common for all information systems. First of all, information system is intended for gathering, storage and processing of information. Hence at the heart of information system is environment of storage and data access. The environment must provide the storage reliability level and access efficiency corresponding to the field of application of information system. Secondly, information systems are focused on the end user. Therefore information system should have simple, convenient and friendly interface providing all necessary functions for end user work and forbidding fulfilment of the superfluous actions.

The information system must solve the problems depending on applied field. During development of the information system providing information-advertising catalogue creation the special attention was given to the following tasks: creation of the user-friendly interface; providing generality of the database for catalogues on different industry branches and fields of society activity; separation of access rights to database for employers and users by password input; input, deletion and correction information of catalogs; to review the data on sections of catalogs and to output data on display; dedication promoted information as demand or

supply and its attaching to the sections of catalogues; fast information searching about advertiser using company name, address and required or offered service; preprint of catalogues in the structured form; permanent control and tracking of abnormal situation or incorrect actions of user. Usage of software in Intranet or Internet is also very important.

2. Software development of information-advertising catalogue creation

During software development for enterprise rendering information-advertising service the up-to-date technologies of data processing have been applied. Functional model of the catalogue creation process has been made in the standard IDEF0, which realized in BpWin package [3].

Information system development of the company is difficult and multi-stage process containing information modeling stage. Information model is specification of the data structure and rules of knowledge domain. Information modeling has been fulfilled by using case-means Er-Win, which creates not only visual presentation (data model) for solved task but also databases (tables, indexes, stored procedures, triggers for providing reference integrity and other necessary objects for data control). The brief description of the information model is listed below. In the model the following objects and their attributes have been allocated:

1. **CATALOGS** – information about catalogues (code, name and date of issue).
2. **PARTS** – data about catalogue sections (catalogue code, code and name of section).
3. **FIRMS** – data about promoted company (identification company number, name, property type and subordination).
4. **ADDRESSES** – information about company address (identification company number, address code, area index, district, region, province and direct address).
5. **F_TELEPHONS** - information about phones of companies (identification company number, phone code, phone number).
6. **FAXES** – data about company faxes (identification company number, fax code, fax number).
7. **TELEFAXES** – data about company facsimile (identification company number, facsimile code, facsimile number)
8. **E_MAILS** – information about company E-mails (identification company number, E-mail address).
9. **SITES** – information about company sites (identification company number, site address).
10. **ADMINISTRATION** – data about company managers (identification company number, code of manager, surname/given name/middle name, post, phone number, fax number and E-mail address).
11. **SERVICES** – information about advertising production (identification company number, identification service number, information type and advertising information).

Let's consider connections between mentioned objects. Between objects: **CATALOGS – PARTS, FIRMS – ADDRESSES, FIRMS – SERVICES, FIRMS - F_TELEPHONS, FIRMS – FAXES, FIRMS – TELEFAXES, FIRMS – E_MAILS, FIRMS – SITES, FIRMS – ADMINISTRATION** the connection of 1:M type has been determined while parent object (supertype) joins several classes of one type. And between objects: **PARTS – SERVICES** the connection type of M:M has been established. Thus the information containing in specified objects is quit enough for automated catalogue creation. The choice of SyBase SQL Anywhere 5.0 database control system has been realized on the physical level of the information model.

The generated database has 11 tables. As far as the software is intended for application in Intranet/Internet the network access has been provided by inclusion database in ODBC. The database presentation In SQL Central is shown in *Fig.1*. Developed information system is directed on using Apache and Tomcat servers because of Java Server Pages (JSP) technology application. This technology allows providing any information from database to Internet users [4-6]. Tomcat is official realization of Servlet 2.2 and JSP 1.1 specification. It can be used as small autonomous server for servlet testing and JSP pages or integrated in Apache Web-server. The technology of JSP server pages gives ability to mix ordinary static HTML-pages and dynamically generated content obtained from servlets. JSP pages have a lot of advantages in comparison with others alternative CGI: ASP, PHP, ordinary servlets, SSI, JavaScript, static HTML. In the first place, JSP pages are widely supported and thus do not limit us in selection of operating system or Web-server. Secondly, JSP provides the full access to the servlet technologies and Java-technologies for dynamic part creation without usage unknown and weaker program language. The main advantage of JSP is that the used technologies permit to separate presentation from content and thus allow to share tasks among different peoples. Experts on Web-pages design can create HTML pages using usual toolkit and leave place to the servlet programmers which include the dynamic content on this page later.

Developed software on information-advertising trade catalogue creation contains 19 JSP pages and 1 HTML page. Each of JSP pages process information and user query by referring through server to database.
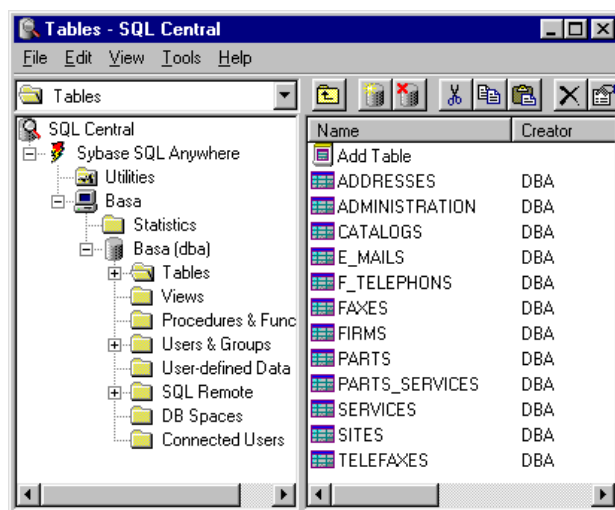
Fig.1

The program provides realization of the following main actions:
1) review, input and correction of the database information;
2) output of the information about promoted enterprise in the form of text page;
3) company searching by name, address and advertising information;
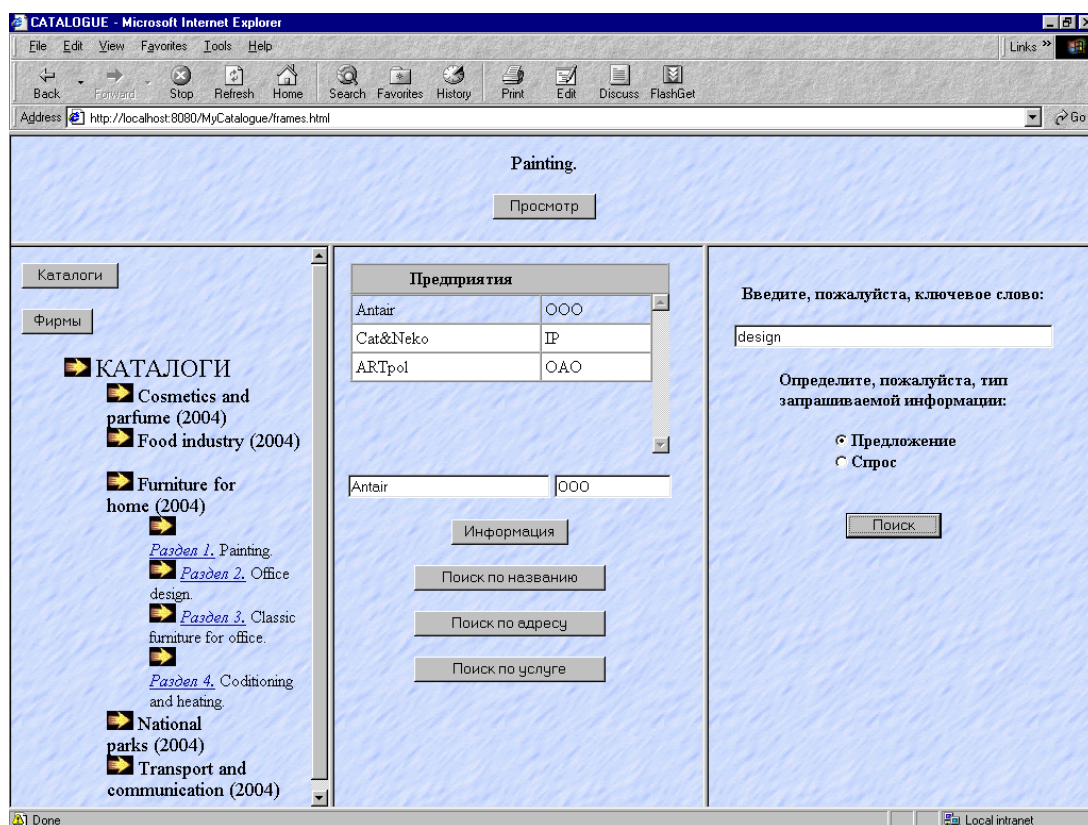4) preprint and preview of catalogues.

Fig.2

Conformity verification of input data has been performed by means of SQL construction using - **SELECT** above the tables CATALOGS, PARTS, FIRMS, ADDRESSES, SERVICES, F_TELEPHONS, FAXES, TELEFAXES, E_MAILS, SITES, ADMINISTRATION and PART_SERVICES. Input, modification and deletion of database information have been released by SQL construction application - **INSERT**, **UPDATE**

and **DELETE** correspondingly. Interface of developed software for searching information about advertiser on required service is presented in *Fig.2*.

The project has been fulfilled by such way that dialog of program and user is constantly realised. The software has user-friendly interface which allows user to determine easy the sequence of operations. In case of incorrect actions of user the messages help to avoid the program errors and wrong database completing.
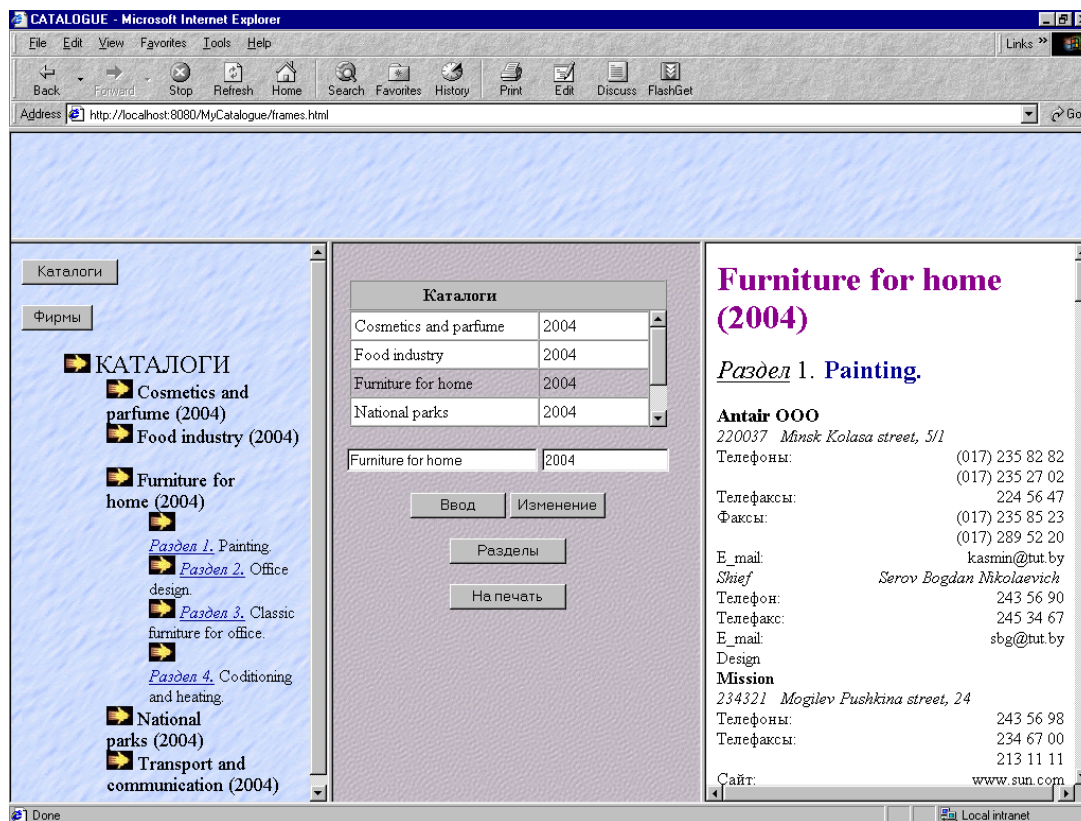

Fig.3

The developed software can be added and expanded by many other functions because of its flexibility. The interface of catalogue preprinting is shown in *Fig.3*.

3. Conclusions

Thus the problem of enterprise automation specializing on providing information-advertising services has been considered and solved. It is necessary to note that using developed information system optimises the catalogue creation process, makes more comfortable and expedient the information processing for enterprise-compiler and data review in catalogues for users. One can say that this information system will determine competitive ability of considered enterprise and supply to it the progressive technology of informational interaction. This software is planed to use in Institute of Mechanics and Reliability of Machines of the National Academy of Sciences of Belarus for creation of information catalogues containing material about basic scientific and technical laboratory developments and also about enterprise-customer of this product.

References

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